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Report of the Special Rapporteur on the implications for human rights of the environmentally sound management and disposal of hazardous substances and wastes on his mission to Germany*

Note by the Secretariat

In the present report, submitted pursuant to Human Rights Council resolution 27/23, the Special Rapporteur shares his findings and recommendations from his visit to Germany.

* The present document was submitted late so as to include the most up-to-date information possible.

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** Circulated in the language of submission only

I. Introduction

1. In the present report, submitted pursuant to Human Rights Council resolution 27/23, the Special Rapporteur on the implications for human rights of the environmentally sound disposal of hazardous substances and wastes, shares his findings and recommendations from his mission to Germany from 30 November to 7 December 2015.

2. The Special Rapporteur identifies several good practices undertaken by the European Union, the Government and industry to prevent harm from hazardous substances and wastes and draws attention to the ongoing challenges he observed.

3. The visit included meetings with executive and senior representatives from the Federal Foreign Office; the Ministry of the Environment, Nature Conservation, Building and Nuclear; the Ministry of Economic Affairs and Energy; the Federal Institute for Risk Assessment; the Ministry of Health; and the Ministry of Justice and Consumer Protection.

4. In addition, the Special Rapporteur met with representatives of the German Institute for Human Rights, a distinguished member of Parliament and a representative of the industrial trade union for construction, agriculture and environment (IG Bauen-Agrar-Umwelt), and held an open meeting with civil society representatives. The Special Rapporteur also travelled to meet with representatives of the companies BASF in Ludwigshafen and Bayer Crop Science in Leverkusen, and the German Chemical Industry Association in Frankfurt.

5. The Special Rapporteur enjoyed the fullest cooperation from all government authorities with whom he dealt. He thanks the German Institute for Human Rights and civil society representatives for their support, and expresses his appreciation for the spirit of cooperation and openness that characterized his meetings with BASF, Bayer and the German Chemical Industry Association.

II. Comments on the legal framework and its implementation

6. Germany is the largest chemical producing country in Europe, the world's fourth largest chemical market (after China, the United States of America and Japan) and is home to BASF, the biggest chemical company in the world, and Bayer, which at time of writing was bidding to purchase Monsanto, the multinational agrochemical. Not surprisingly, Germany plays a key role in the implementation of European Union chemicals legislation and in discussions on future policy directions.

7. Germany has ratified every international human rights treaty except the Optional Protocol to the International Covenant on Economic, Social and Cultural Rights and the International Convention on the Protection of the Rights of All Migrant Workers and Members of their Families. Germany is also party to all global treaties for chemicals and waste management and expects to become party in the near future to the Minamata Convention on Mercury, which is not yet in force. It is also party to the Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (Aarhus Convention) of the Economic Commission for Europe, and its Protocol on Pollutant Release and Transfer Registers.

8. In the following section, the Special Rapporteur looks at recent changes in the legal framework for hazardous substances and waste in the European Union and Germany and identifies some good practices from a human rights perspective.

A. Industrial chemicals

9. In 2006, the European Union adopted Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, which aims to generate, collect and assess information on the hazardous properties and uses of the approximately 30,000 most widely used industrial chemicals. Industrial chemicals are also subject to Regulation (EC) No. 1272/2008 on the classification, labelling and packaging of substances and mixtures, which implements the Globally Harmonized System of Classification and Labelling of Chemicals and various legislation for specific types of products.

10. REACH is regarded as the strongest law for industrial chemicals in the world. It includes revolutionary protective measures for chemicals of known risks for human health and the environment, such as an authorization process for "substances of very high concern" and a more traditional restriction process. It also contains numerous precautionary aspects, recognizing the vast uncertainties arising from the failure to require companies to generate and make available health and safety information for tens of thousands of industrial chemicals on the market today. A specialized agency, the European Chemicals Agency, was created to help manage the implementation of REACH.

11. REACH represents a paradigm shift for the protection and realization of human rights implicated by industrial chemicals, such as the right to information, the right to an effective remedy, the right to a healthy environment and many others.

12. Information on hazardous substances should be available, accessible and functional for everyone, consistent with the principle of non-discrimination. In realizing the right to information, the REACH has a number of features. First, it contains tiered health and safety requirements for all industrial substances produced or imported at or above one ton per year. This pragmatic requirement, known as "no-data, no-market", shifts the burden of proof away from public authorities and onto relevant businesses. Second, it requires industry to share information on the use of hazardous industrial chemicals up and down the supply chain to help ensure that substances are being used safely and information is current. In this way, the right to information also contributes to workers' and consumers' rights. Third, health and safety summaries are made available to Governments around the world, enabling those with fewer resources to avoid duplication of efforts and enhance cooperation. Fourth, consumers have the right to contact businesses to inquire whether a chemical linked to cancer, hormone disruption or other health and environmental hazards are found in certain products if they are on the "candidate list". Finally, the information generated is enabling businesses to transition to safer chemicals and safer products. These are good practices for the realization of the right to information about industrial chemicals, and implementation of the Guiding Principles on Business and Human Rights.

13. As a consequence of realizing the right to information on industrial substances, REACH is enabling Governments to better protect the rights to the highest attainable standard of health, to safe drinking water, to adequate housing and to a healthy environment. As information is necessary for judicial and non-judicial remedies, it is reasonable to foresee that the right to an effective remedy is better enabled by REACH.

14. However, during the process of developing REACH and its current implementation, it has been subject to criticism, particularly from industry, Governments outside the European Union and non-governmental organizations. For example, Governments have accused REACH and other European Union chemical laws as "discriminatory, lack a

[1] See A/HRC/30/40 para. 54.

legitimate rationale and pose unnecessary obstacles to trade".[3] The Special Rapporteur disagrees, as the realization of human rights requires not only the full implementation of REACH, but also additional measures to better protect children and other at-risk populations and subpopulations.

15. REACH intends for hazardous chemicals to be replaced by safer alternatives when they can be identified. "Substances of very high concern" are identified in the European Chemicals Agency "candidate list".[4] Currently there are 169 substances waiting on the list that are candidates to be subject to the REACH authorization requirements. While substitution of those substances is not mandatory at this stage, it is a long-term objective. If a substance subsequently is put under the authorization scheme (currently 31 substances), its future use requires an authorization by the European authorities, which can only be granted if the risk to human health or the environment is adequately controlled or if socioeconomic benefits outweigh the risk and no suitable alternative substances or technologies exist. When a substance is placed on the "candidate list", a notification of obligations is sent to the whole supply chain, which can benefit consumers' right to information.

16. Germany plays a prominent role in the implementation of REACH and other European Union chemicals legislation and in discussions on future policy directions. It makes frequent proposals to the European Chemicals Agency, is a major contributor of substance evaluations and contributes to risk management processes.

17. The Ministry of Environment noted that in many respects the public is given a "right on information" under REACH and the Regulation on classification, labelling and packaging. It was noted that, for example, the public has the right to know whether a product contains a substance of very high concern, and to comment on publicly available proposals on restrictions and harmonized classifications of substances.

18. It also noted several challenges in the implementation of REACH. Fundamentally, the information provided by industry is not always adequately scrutinized. Compliance was questioned with information needed for the assessment of hazardous properties missing or incomplete for numerous substances registered. Questions were raised about the willingness of and incentives for industry to fully implement REACH.

19. Along these lines, the Ministry of Environment noted a study taken on its own initiative that documented that only five per cent of high tonnage substances are clearly in compliance with REACH requirements for information on toxicity for reproduction. For 78 per cent of the substances, either no data was available (11 per cent) or data requirements were "adapted".[5] It remains to be clarified for the vast majority of high tonnage substances in the European Union whether sufficient information on prenatal developmental toxicity and toxicity for reproduction is available. This information is necessary in assessing the potential health impacts of industrial chemicals in products and the environment on fertility and on (developing) children, and required for implementation of the Convention on the Rights of the Child.

20. The Ministry also noted the substantial difficulty in assessing causation for illnesses linked to long-term exposure to even one toxic substance, let alone the mixture of toxic substances people are exposed to throughout life. Comprehensive information is only provided for substances greater than 100 tons, which represent about 4,100 substances of

[3] Office of the United States Trade Representative, *2014 Report on Technical Barriers to Trade* (Washington, D.C.), available from https://ustr.gov/sites/default/files/2014%20TBT%20Report.pdf.

[4] See http://echa.europa.eu/addressing-chemicals-of-concern/substances-of-potential-concern/svhc-roadmap-to-2020-implementation.

[5] https://www.umweltbundesamt.de/publikationen/reach-compliance-data-availability-of-reach.

the 30,000 substances subject to REACH. Various ministries and agencies confirmed that this is a serious challenge for victims to realize their right to a remedy.

21. BASF is the largest REACH registrant. Compared with other companies, BASF has an ambitious "product stewardship" goal, to re-evaluate risk assessments for more than 99 per cent of its products sold globally in quantities greater than one metric ton, by 2020. BASF told the Special Rapporteur that safety data sheets are prepared for all of the company's chemical products, despite being legally required to do so only for hazardous substances. The company also includes a risk assessment on the "uses" of the chemicals, which represents a significant and necessary improvement.

22. BASF also has the dubious honour of having the most chemicals in production that are identified thus far as "substances of very high concern". Regarding its efforts to phase out harmful chemicals, BASF explained the value of proactively finding internal solutions ahead of European Union regulators. It categorizes its products into four groups relative to their sustainability, to allow for internal discussions about substitution or phase out at every level of operation.

23. Regarding the fact that chemicals banned in the European Union are still manufactured by the company in its operations outside the region, BASF also explained that phasing out a substance is not something that can be done quickly, so phase-out gaps between production sites will vary.

24. Despite the reporting requirements of REACH, companies remain seriously challenged in tracing the use of chemicals throughout the supply chain, which poses grave threats to human rights.

25. The German Chemical Industry Association, representing 1,600 companies and accounting for 95 per cent of the chemical industry in Germany, told the Special Rapporteur that the German chemical industry is dedicated to fulfilling the Strategic Approach to International Chemicals Management, through the implementation of its Global Product Strategy 2006.

26. The Association highlighted two German initiatives of the Global Product Strategy: the "responsible care" programme, which aims to improve safety and the protection of health and the environment; and the sustainability initiative called "Chemie"", which is a common effort with the employers' association and the major union of the chemical industry. It also advised that all major German chemical multinationals have signed the United Nations Global Compact on sustainable development.

27. The Global Product Strategy was held out to be the industry's contribution to promoting human rights and safety by raising and harmonizing standards for the handling of chemicals throughout the world, in developing, emerging and industrialized nations alike. It applies to all chemical companies and captures the entire product and value chain. The German Chemical Industry Association stated it has Global Product Strategy documents for 5,000 substances and hopes to reach the goal of 20,000 substances by 2020.

28. While greater transparency and communication with customers and the public is welcomed from a human rights perspective — not least to enhance public confidence in the chemical industry — the Special Rapporteur is mindful that such commitments are merely voluntary.

29. The German Chemical Industry Association also offered some examples of capacity-building initiatives by its member companies, who are implementing the Global Product Strategy and a regulatory toolbox developed with the United Nations Environment Programme (UNEP) so that countries can determine which regulatory setting is most fit for purpose to safeguard health and environment.

Sustainable chemistry

30. The Ministry of the Environment and the German Federal Environment Agency are developing and initiating an international centre for sustainable chemistry called the International Sustainable Chemistry Collaborative Centre, which aims to enhance the sound management of chemicals. The German authorities are inviting interested stakeholders at the national and international levels to participate in the work of the centre and join the network that aims to create a common platform to drive sustainable development and progress.

31. The centre will be based in Germany and is scheduled to open officially in 2017. By setting up the centre, Germany hopes to consolidate national expertise and international experience to organize and intensify an exchange on research and the application of results.[7]

B. Pesticides

32. The primary laws governing the approval and use of pesticides[8] in Germany are the Plant Protection Products Regulation and the Biocides Regulation. In recent years, Germany, together with other member States of the European Union, has strengthened the level of protection to human health and the environment from hazardous pesticides.

33. One of the most innovative features of recent changes to European Union pesticides laws is the prohibition on the use of certain pesticides linked with cancer, reproductive effects, hormone (endocrine) disruption and other adverse health effects, and certain physical properties. The so-called "hazard-based" approach of European Union pesticides legislation is based on evidence that protection of human health and the environment cannot be adequately assured for certain pesticides with such properties. The "hazard-based" approach to pesticides is grounded in the principle of precaution, provided in the Treaty of Lisbon amending the Treaty on European Union and the Treaty establishing the European Community.

34. The Special Rapporteur considers the "hazard-based" approach to be in line with the universality of human rights and the uncontrollable risks that certain pesticides pose to those rights. It is a commendable step by the European Union to protect the human rights of everyone, including agricultural workers and children.

35. Relevant regulations are in the beginning stages of implementation. Concerns have been raised regarding the pace of implementation and derogations from the requirements of the Regulations. In particular, concerns were raised regarding the delayed adoption of criteria for endocrine (hormone) disruptors.

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[7] See German Chemical Industry Association (VCI), "Chemie report. Information for VCI member firms – special issue – Product Stewardship. Think global – and act global", Frankfurt, Germany (January 2010).

[8] See https://chemical-watch.24513-fostering-sustainable-chemistry.

[8] The term includes, among others, herbicides, fungicides, insecticides, acaricides, nematicides, molluscicides, rodenticides, growth regulators, repellents, rodenticides and biocides.

36. Concerns were also raised regarding the disparity between the levels of protection afforded those in Germany from hazardous pesticides and those in countries outside the European Union, discussed below.

37. Major German pesticide companies, as members of the trade association CropLife International, have fully adopted the Food and Agriculture Organization of the United Nations (FAO) and World Health Organization (WHO) International Code of Conduct on Pesticide Management and its accompanying guidelines set standards for pesticide management aimed at reducing health and environmental risks.

38. Under the Strategic Approach to International Chemicals Management, an international policy framework, work is progressing on strengthening global measures on highly hazardous pesticides, many of which are prohibited from use in Germany and the rest of the European Union. There have been calls for the phase-out of highly hazardous pesticides that, according to the FAO can be substituted with safer alternatives and non-chemical alternatives.[7]

39. Bayer informed the Special Rapporteur that they had a human rights policy in compliance with the FAO International Code of Conduct on the Distribution and Use of Pesticides, and a stewardship policy that they say reflects the whole life cycle of a product. For each life cycle step, Bayer says it works on best management practices with the objective of human safety, worker operator safety, residues in food, consumer safety and environmental aspects. It also claims to work as an industry on training materials to ensure the safe use of pesticides.

40. The Special Rapporteur was pleased to learn of Bayer's phase-out policy to remove all highly hazardous pesticides considered to be carcinogenic from their portfolio by 2012, and of its process of "portfolio screening" (covering insecticides and fungicides in 2011 and herbicides in 2015). However, highly hazardous pesticides remain in its portfolio with no target date for phase-out.

41. The Special Rapporteur is concerned that, rather than substituting hazardous pesticides with safer alternatives, it would seem that Bayer prefers mitigation strategies that carry greater risks for workers and communities, such as wearing protective personal clothing and improvements on labelling. The Special Rapporteur considers that typically the only effective mitigation strategy for hazardous pesticides is a concerted effort to develop and adopt safer alternatives.

C. Energy production

42. The energy policy known as the *Energiewende* aims at replacing fossil fuels (coal, oil and natural gas) and nuclear-based energy with cleaner, renewable energy sources, such as wind (onshore and offshore) and solar power (thermal and photovoltaic), and to a lesser extent hydropower and biomass.

43. Germany is working towards halving its primary energy consumption by 2050 and expanding renewable energies to 60 per cent of gross final energy consumption.[8] These targets go beyond European Union legislation and the national policies of other European States. The policy objectives have resulted in a huge expansion of renewables, particularly onshore wind power and solar photovoltaic.

[7] See www.ohchr.org/en/NewsEvents/Pages/DisplayNews.aspx?NewsID=16510&LangID=E.

[8] See Federal Ministry for Economic Affairs and Energy, "Report of the Federal Government on Energy Research 2014" (Berlin).

44. At the time of the 2011 nuclear accident in Fukushima, Japan, a quarter of electricity in Germany was generated by 17 nuclear reactors. After Fukushima, Germany reassessed the role of nuclear power and committed itself to phasing out the use of nuclear power by 2022. Today, 16 per cent of electricity is generated by eight nuclear reactors. One challenge will be for Germany to reach its goal without resorting to coal-fired power plants.

45. One of the most controversial issues for Germany has been determining the site of the final storage of nuclear waste, culminating in a common decision by all members of Parliament, including the opposition, to search throughout Germany for potential new sites. A commission published its report in July 2016. The Special Rapporteur was pleased to hear that, at every stage of the decision-making, there has been strong public participation and that Germany is developing very high standards for underground geological nuclear storage in the absence of international standards.

D. Waste management

46. Of the 339 million tons of waste that Germany generated in 2013, 71 per cent was recycled. By 2015, and in line with its Landfill Ban legislation (2005), the German waste management sector employs more than 250,000 people with an annual turnover of 50 billion euros.

47. Responding to the Special Rapporteur's question concerning good waste management practices for other countries, the Ministry of the Environment emphasized the importance of having legislation in place with a strong administration and the authority to implement the law, by monitoring, applying standards and sanctions, and using the best technology available. This can only be achieved by adequate financing on the basis of the "polluter pays principle" to ensure that any waste generated pays for the costs of its proper management.

48. The Ministry referred to the fact that 90 per cent of countries in the world do not manage waste from the polluter pays principle but through State subsidies from general taxes, with few politicians prioritizing waste management in their budgets, whereas in Germany the sector is successful because the State budgets for high standard technology for the day-to-day running of waste management (collection and recycling) and polluters are willing to pay for these services.

E. Electrical and electronic equipment

49. Waste streams in the European Union generated from electrical and electronic equipment, such as computers, television sets, refrigerators and mobile telephones, is expected to grow to more than 12 million tons by 2020.

50. A major initiative and good practice is the European Union end-of-life "take-back" directives for electrical and electronic equipment, batteries, accumulators and vehicles. These measures can help control potential hazardous releases during disposal. Germany took a very active lead in developing the respective pieces of European Union legislation to address this problem.

51. Companies selling electrical and electronic goods in the European Union must conform to the European Union legislation for electrical and electronic equipment, which includes: (a) the Waste Electrical and Electronic Equipment Directive;[7] and (b) the

[7] See http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32012L0019.

Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment.[11]

52. Both Directives impose obligations and outcomes that member States must achieve but it is open to each member State to choose the best framework to fulfil its obligations. Therefore, national rules for implementing each Directive will differ from country to country.

53. The Ministry of the Environment mentioned the challenges in distinguishing between waste and non-waste at the border and in accurately determining the amount of illegal shipments of electronic waste from Germany to other countries.

54. Germany commissioned a national study (2009-2010), in which it was calculated that 150,000 tons of electronic-waste were exported illegally from Germany in 2008.[12] The Ministry questioned the reliability of the figures on the basis that it is extremely difficult to know accurately the content of containers, and was confident that German industry was usually not involved in illegal shipments.

F. Ship-breaking

55. German ship owners operate the world's fourth largest merchant fleet in terms of vessels and have been linked to widespread contamination of the food, water and air of local communities, in addition to fatalities and toxic chemical exposure among workers, including child and migrant workers, who dismantle ships in hazardous and deadly conditions. According to assessments by civil society, but disputed by the Government, in 2014, German ship owners sold a record high of 95 per cent of their end-of-life tonnage for substandard breaking on the beaches of South Asia. Despite recent progress, the extremely poor working practices and environmental conditions prevailing in many ship-breaking yards continue to be the source of widespread concern in the international community.[13]

56. The interplay between and levels of protection afforded by the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, and the International Maritime Organization Hong Kong International Convention on the Safe and Environmentally Sound Recycling of Ships remains an issue.[14]

57. In October 2011, the majority of parties to the Basel Convention officially determined that the Hong Kong Convention did not protect people or communities from the dangers of ship-breaking as adequately as the Basel Convention. The European Union disagreed with that conclusion, and Germany is in favour of the Hong Kong Convention, which has yet to enter into force. The Special Rapporteur plans to further monitor and assess the issue.

[11] See http://eur-lex.europa.eu/legal-content/GA/TXT/?uri=celex:32011L0065.

[12] See http://www.umweltbundesamt.de/publikationen/transboundary-shipment-of-waste-electrical.

[13] See the Report of the Special Rapporteur on the illicit movement and dumping of toxic waste (E/CN.4/2000/50/Add.1) and the 2009 Report of the Special Rapporteur on the adverse effects of the movement and dumping of toxic and dangerous products and wastes on the enjoyment of human rights (A/HRC/12/26).

[14] See A/HRC/12/26. See also report of the Center for International Environmental Law, entitled "Shipbreaking and the Basel Convention: Analysis of the Level of Control Established under the Hong Kong Convention" (April 2011), available from

G. International trade and deregulatory pressures

58. Although Germany has, together with European Union member States and institutions, developed many good practices in protecting human rights from hazardous substances and wastes over the past several years, there are apparent threats to the full implementation of laws and standards that have yet to be set in certain areas.

59. For example, the German Federal Environment Agency notes that, if improperly designed, the regulatory objectives of the envisaged Transatlantic Trade and Investment Partnership agreement could adversely affect European Union environmental standards.[47] Of particular concern is the risk to the implementation of existing legislation. Indeed, there is evidence that the Transatlantic Trade and Investment Partnership has been used as an argument against improved standards for protecting human rights from the risks of toxic chemicals.[48] The European Parliament echoed the concerns of the Agency and went even further, calling for the European Union to not negotiate on the implementation of REACH and other European Union chemical and pesticide laws in the context of negotiations on the Transatlantic Trade and Investment Partnership.[49] An opinion of the German Advisory Council on the Environment recently found that controversial issues, such as the regulation of toxic chemicals and the precautionary principle, were not adequately assessed by the European Commission Sustainability Impact Assessment of the Transatlantic Trade and Investment Partnership.[50]

60. The Special Rapporteur is troubled by the recent initiatives within the European Commission that may embrace elements of what the German Environment Agency and European Parliament raised as concerns regarding the impacts of the Transatlantic Trade and Investment Partnership on European Union laws, namely, the "Better Regulation Agenda" and the European Commission Regulatory Fitness and Performance programme.

61. Given the dynamic nature of the negotiations concerning the Transatlantic Trade and Investment Partnership, the Special Rapporteur highlights one particularly problematic issue in modern trade negotiations that increasingly encroaches upon the policy space of national Governments: the low level of transparency and public participation. This concern has also been raised by the German Environment Agency and others.[51] While the European Commission has sought to increase the level of transparency, with the Government of Germany consequently having access to all negotiating proposals of the European Union and consolidated texts, the public does not have equal access or meaningful opportunity for participation. Furthermore, the failure of all negotiating parties to the Transatlantic Trade and Investment Partnership to have the same level of transparency undermines the advancements made by the Commission. The lack of public participation in trade negotiations is of serious concern to the Special Rapporteur, as trade negotiations

[47] See www.umweltbundesamt.de/sites/default/files/medien/376/publikationen/environmental_protection_under_ttip_0.pdf, p. 4.

[48] See submission of the Government of the United States to European Union consultation on endocrine disrupting chemicals (January 2015), available from www.usda-eu.org/wp-content/uploads/2015/01/United-States-Submission-Endocrine-Disrupters-2015-01-20.pdf.

[49] See European Parliament resolution of 8 July 2015 containing the European Parliament's recommendations to the European Commission on the negotiations for the Transatlantic Trade and Investment Partnership, available from http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT+TA+P8-TA-2015-0252+0+DOC+XML+V0//EN.

[50] See www.umweltrat.de/SharedDocs/Downloads/EN/06_Background_Information/2016_2020/2016_07_KzU_17_TTIP_en.pdf?__blob=publicationFile.

[51] See www.umweltbundesamt.de/sites/default/files/medien/376/publikationen/environmental_protection_under_ttip_0.pdf.

increasingly seek to alter the development and implementation of laws and policies, including those for the protection and realization of human rights.

62. Given that the primary objective of negotiations concerning the Transatlantic Trade and Investment Partnership is to reduce regulatory costs by altering the implementation of existing legislation or developing new legislation in the European Union, the Special Rapporteur encourages Germany to ensure that ongoing and future trade negotiations fully respect the right to meaningful public participation and are conducted with utmost transparency where they affect laws and regulations.

III. Initiatives for stronger protection of human rights

A. Workers

63. A major source of exposure to hazardous chemicals in Germany is in the workplace, and it is estimated that about 74,000 work-related deaths may be linked to workplace exposure to hazardous substances each year in the European Union — about 10 times more than workplace accidents.[20]

64. While identification and controls for carcinogens are well developed with a specific Directive for Carcinogens and Mutagens at work,[21] there is a need to extend protection against reproductive hazards. The European Union regulation protecting pregnant women in the workplace includes a list of chemicals that is very old and not updated, which means that many chemicals of concern, like endocrine disrupting chemicals or nanomaterials, are missing.[22]

65. According to a study by the European Agency for Health and Safety at Work, around 15 per cent of European workers report handling chemical products for a quarter of their working time and 19 per cent report breathing in dust, fumes and smoke at their workplaces.[23] This study highlighted nanoparticles, ultrafine particles, man-made fibres, carcinogenic, mutagenic and reprotoxic substances, dermal exposures, exposures in waste management and the increasing use of allergenic and sensitizing substances as emerging risks.

66. Specific occupations of emerging concerns include the growing waste management industry, construction and service activities such as cleaning or home nursing. In addition, there are a growing number of workers in small and medium-sized enterprises and subcontracted jobs, where the management of chemical risks is generally poorer. The report also expresses concern about multiple exposures on emerging biological, physical and psychosocial emerging risks.[24]

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[20] See International Labour Organization, "Factsheet 84 - Expert forecast on emerging chemical risks related to occupational safety and health" (2005), available from https://osha.europa.eu/en/tools-and-publications/publications/factsheets/84/view.

[21] Directive 2004/37/EC - carcinogens or mutagens at work of 29 April 2004, available from https://osha.europa.eu/en/legislation/directives/directive-2004-37-ec-carcinogens-or-mutagens-at-work.

[22] See Council Directive 92/85/EEC of 19 October 1992, available from http://eur-lex.europa.eu/legal-content/en/TXT/?uri=CELEX%3A31992L0085.

[23] See Directive 2004/37/EC (note 21 above).

[24] Ibid.

67. REACH may not adequately protect workers, because the risks of daily exposure are primarily assessed for industrial chemicals at higher tonnage thresholds, whereas the majority of chemicals to which workers are exposed are at the lower thresholds. Since the level of hazardous substance exposure for workers is at much higher levels than the permissible exposure levels for consumers, information about adverse effects of chronic exposure is critical.

68. In Germany, 16,165 suspected cases of occupational skin disease were recorded in 2004, representing a quarter of all registered occupational diseases. Other skin diseases include chemical burns ranging from rashes to full thickness skin damage requiring grafts. Chromate is the most dominant allergen, followed by epoxy resins and cobalt in the German construction industry.[7] The German trade union IG Bergbau, Chemie, Energie says that information needs to feature more prominently on the European Chemicals Agency database, so workers can better access health and safety information.

69. Although asbestos is prohibited in Germany, it is still found in buildings and ships. Specialized training and qualifications are required to dispose of asbestos safely, for instance, in demolition or renovation, particularly for informal workers.

70. It was brought to the Special Rapporteur's attention that Germany has not put in place any specific measures to protect informal workers from the risks of hazardous substances. Currently the trade union IG Bauen-Agrar-Umwelt is campaigning for informal and migrant workers to receive basic health and safety instructions prior to working.

71. BASF informed the Special Rapporteur of its global standards for workers' safety. BASF assured the Special Rapporteur that all plants were built according to the same standards and safety levels for workers. The company's goal is to reduce work-related accidents by 80 per cent by 2020.

B. Public participation in decision-making in environmental matters

72. Public participation in environmental decision-making is implemented by the European Union Directive on Industrial Emissions, and German citizens have been accustomed to participating since the 1970s. In urban planning, participatory structures have been in place since the building law of 1976, which legally guarantees that the public must be consulted on development projects.

73. The Ministry of Justice raised the "Stuttgart 21" railway station project to the Special Rapporteur to highlight a growing unrest among the German public that their participation was not adequate, effective or meaningful, and that their concerns were not being heard or taken into account by decision-makers. In response, the Government recently established within the Ministry of Environment a dedicated unit to ensure that government obligations with regard to informal public participation processes are upheld.

74. It was refreshing for the Special Rapporteur to hear several government representatives emphasize the importance of full, effective and meaningful public participation, especially when a proposal is expected to be complicated or confrontational.

75. In Germany, in general, non-governmental organizations have the possibility to be heard in the legislative process. They can be heard during public hearings that are usually transmitted via the Internet. All such organizations have the possibility to send statements

[7] See European Agency for Health and Safety at Work, "Report - Expert forecast on emerging chemical risks related to occupational safety and health" (2009), p. 63, available from https://osha.europa.eu/en/tools-and-publications/publications/reports/TE3008390ENC_chemical_risks/view.

to the commissions of Parliament to give their point of view. Stakeholders may participate in European Chemicals Agency committee meetings, and responses to comments received are published. However, the Special Rapporteur also heard that, compared with other health and environmental policy issues, the issue of chemicals is less transparent, with fewer opportunities for meaningful participation (online or in person) and exchanges of views.

C. Right to an effective remedy

76. The right to an effective remedy is well established under international human rights law and is a core procedural right relating to environmental policymaking. For example, The International Covenant on Civil and Political Rights (art. 2, para. 3) guarantees victims of human rights violations an effective remedy. This has been interpreted to include environmental wrongs that adversely affected human rights. The two aspects to the right to a remedy are access to justice and substantive redress.

77. In Germany, the statute of limitations to gain access to a remedy for environmental harm is three years from knowledge of damage, and 30 years where there is none. In the German legal system, most legislation concerning environmental liability for damages arising from nuclear waste, hazardous substances and wastes is a matter of public law, for which the Ministry of the Environment is responsible, and does not come under the general civil liability rules, for which the Ministry of Justice is responsible.

78. One of the greatest obstacles for victims who are harmed by hazardous substances to access an effective remedy is the often insurmountable burden placed on them to prove causation between their exposure and the adverse effects that are alleged to be a result of that exposure. Thus, the Special Rapporteur welcomed the information on laws that seek to overcome this challenge for claimants and the emphasis of the Government on the prevention of exposure to minimize the risk of harm in the first place.

79. The Environmental Liability Act 1990 provides that, under certain conditions, a presumption of cause is applied that shifts the burden of proof away from the alleged victim(s). Section 6 of the Act reads: "if an installation is likely to cause the damage that occurred on the basis of the given facts of the individual case, it is presumed that the damage was caused by this installation". The Act also allows the claimant to submit a claim for information from the installation operator (section 8) and from the authorities (section 9), and provides that the right to information may only be excluded owing to reasons of confidentiality (section 8). However, there have been few compensation cases made on the basis of the Environmental Liability Act. This could be owing to the high standards by companies or to the fact that cases are being settled out of court.

80. According to the jurisdiction of the Federal Court of Justice, the burden of proof may also be shifted under the general civil liability rules (section 823 of the German Civil Code) if an installation exceeds certain emission limits.

81. In 2002, Germany changed its "*Arzneimittelgesetz*" (Law on Pharmaceuticals) to shift the burden of proof away from claimants towards strict liability comparable to article 6 of the Environmental Act. Under the Product Liability Act, the burden of proof may only be shifted according to the jurisdiction of the Federal Court of Justice.

82. In both areas of private liability — the Environmental Liability Act and Law on Pharmaceuticals — a shift in the burden of proof to reflect a victims-based approach is welcomed. However, in the area of occupational health and safety, the Special Rapporteur heard of the immense challenges still faced by workers who fall ill from toxic chemicals to access any remedy.

D. Business responsibilities to respect human rights

83. Many German businesses play a central role in international supply chains that use, produce or release hazardous substances, including hazardous pesticides. Noting the substantial number of German businesses with ties to developing countries, the Special Rapporteur was particularly interested to hear from Bayer and BASF about how business enterprises are protecting human rights in developing countries, considering that many countries do not have the same levels of public health, occupational or environmental protection as Germany.

84. Bayer does not have a separate human rights policy in addition to their policy on corporate compliance, but noted that that it needs to reflect more on human rights and the link between the use of chemicals and health and safety. With regard to Pillar 3 of the Guiding Principles on Business and Human Rights, Bayer explained that it had made its recent grievance mechanism more visible, with a compliance hot line, in 12 languages, open to its employees and the public. Bayer stated its commitment to enabling remediation in case of any adverse effects on health and safety.

85. BASF shared its February 2011 group position on human rights and provided an update of how it was incorporating human rights and the Guiding Principles into its core processes.

86. In 2010, BASF founded a voluntary chemical sector initiative entitled "Together for Sustainability" that consisted of 12 leading chemical companies that agree on the concept of a single audit for sustainability. BASF sees this initiative as an opportunity to embed human rights into upstream companies by conducting human rights due diligence in the value chain.

87. BASF indicated its willingness and described its sector-wide activities (e.g., the Chemie[1] and Together for Sustainability initiatives) to further promote the implementation of the Guiding Principles.

88. BASF participated in hearings of the National Action Plan on Business and Human Rights process. The company stressed that such processes help to better understand the huge challenges companies face with their supply chain. BASF has more than 75,000 tier-1 suppliers, an estimated 400,000 in tier 3 and perhaps 2 million in tier 8, thus demonstrating the need for effective management systems to create a cascade effect in the supply chain.

89. Throughout the Special Rapporteur's visit, key stakeholders provided information on the National Action Plan on Business and Human Rights being developed under the auspices of the Federal Foreign Office, based on the Guiding Principles on Business and Human Rights. Many ministries had been actively involved in the development of the National Action Plan and all relevant sections of society, to ensure that support was as broad-based as possible.

90. Progress on the National Action Plan is regularly updated online; the aim is for it to be passed by the Federal Cabinet in 2016. The Special Rapporteur contributed to this process in a letter dated 25 February 2016, in which he drew attention to the human rights impacts of German businesses operating abroad.[2]

[2] Available from https://spdb.ohchr.org/hrdb/32nd/public_-_OL_DEU_25.02.16_(1.2016).pdf.

IV. Issues in focus – domestic concerns

A. Child and adult exposure to toxics

91. During his visit, the Special Rapporteur repeated his concern about the health consequences of exposure during childhood and adulthood to hundreds of toxic chemicals. In terms of risk assessments and the impacts of chemicals when children are exposed, the Special Rapporteur heard from various risk assessors and ministries that one of the major gaps in the REACH dossiers is reproductive toxicity data.

Human biomonitoring

92. Human biomonitoring studies can provide important information on current exposure, data points for cause and effect and evidence of the efficiency of measures being taken to reduce exposure to hazardous substances, thereby enabling regulators to better prevent exposure and harm. Some studies have shown that over 500 different hazardous substances are found in adults and over 200 in children.

93. As such, human biomonitoring is an important tool in environmental medicine to assess and evaluate the level of internal exposure of the general population, population groups and individuals to environmental toxins. It seems that Germany also recognizes the importance of measuring the amounts of hazardous substances in its people, and the Human Biomonitoring Commission advises the Federal Environment Agency on such questions.

94. The Ministry of Health and Research also conducts a comprehensive health survey every 5 to 10 years in Germany, incorporating an environmental survey. The most recent survey, which is still ongoing, focused on children's exposure to pollutants using the same subjects in trial tests (2015-2017). The Special Rapporteur also notes that Germany has not contributed to the WHO-Coordinated Survey of Human Milk for Persistent Organic Pollutants in Cooperation with UNEP for some time (as required by the Stockholm Convention). All results should be made publicly available.

Toxics in toys

95. Toys are one of many potential sources of exposure to toxics by children and are regulated by the Toy Safety Directive 2009/48/EC and the chemical safety requirements that have applied since 20 July 2013. The Directive requires that toys are manufactured in accordance with all safety requirements and that there is no risk of adverse effects on human health due to exposure to chemical substances which toys contain. The manufacturer has to declare that each toy is compliant with the Directive by way of a "CE" mark before it is placed on the market, including a safety assessment of potential exposure to chemical hazards.

96. The Directive prohibits the use of certain toxic substances in toys. Safety standards are continually updated as the understanding of risks increases and new products are developed. Germany has played a leading role in strengthening toy regulations.

97. Still, the Special Rapporteur is troubled to hear from civil society and authorities like the Federal Institute for Risk Assessment that various toys may still contain toxic substances that are hazardous to children's health, such as carcinogens, because of derogations to the ban that could result in exposure and risk to children.

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[37] See the report of the Special Rapporteur, A/HRC/33/41.

98. The Special Rapporteur sees six remaining challenges with respect to laws and practices concerning hazardous substances in toys: (a) the new Regulation allows for higher amounts of carcinogenic, mutagenic and/or reprotoxic substances; (b) the maximum limits for heavy metals, such as antimony, arsenic, barium, lead and mercury, are higher than before the Directive;[7] (c) nickel and fragrances, which are the main causes of allergies, are still allowed and present; (d) persistent, bioaccumulative and toxic substances, as well as very persistent and very bioaccumulative substances, are barely considered in the Directive, and their substitution depends on the relatively slow implementation of REACH; (e) nanomaterials, which have unique properties and many unknown risks for children, are not covered under the Directive; and (f) by allowing manufacturers to self-certify the "CE" mark on toy products, consumers may be misled and believe "CE"-labelled toys are controlled by an independent test.

B. Risk assessment processes

Chemical mixtures

99. It is well known that human exposure to combinations of different chemical substances can result in serious adverse effects not expected from exposure to the substances individually. Children and adults have hundreds of different chemicals in their bodies. Yet risk assessments are almost always conducted on a substance-by-substance basis. The assessment of the risk to health from the hundreds of toxic chemicals children and adults are exposed to simultaneously, including before birth — the "combination effects" of exposure — presents challenges as risk assessments, which typically test exposure to single chemicals at a time, are not adequate to monitor such exposures.

100. Noting that the European Commission has indicated that "combination effects" will be one of their key areas of concern over the next five years, the Special Rapporteur raised this issue with the Federal Institute for Risk Assessment as to how they might assess combination effects, particularly when it comes to children. The Institute agreed that it is a pressing issue for human toxicology and is currently undertaking research activities to test combination effects, which presents many challenges. The Institute indicated that efforts are ongoing (e.g., on multiple residues, mixtures of pesticidal active substances and coformulants or developing new testing strategies for testing mixtures).

Endocrine disrupting chemicals

101. Human health depends on a well-functioning endocrine system to regulate the release of certain hormones that are essential for functions such as metabolism, immunity, growth and development, reproduction, sleep and mood. Endocrine disruptors alter the functions of the hormone system and consequently cause adverse effects in human health.

102. Over 800 substances are known or suspected to interfere with the normal functioning of hormone systems. However, the vast majority of chemicals in current commercial use have not been tested at all. According to UNEP and WHO in their joint 2012 report, "this lack of data introduces significant uncertainties about the true extent of risks from chemicals that potentially could disrupt the endocrine system."[8]

103. There is growing concern in the European Union and worldwide about the negative human health and environmental impacts possibly caused by endocrine disrupting chemicals. In 1999, the European Commission developed a "Strategy for endocrine

[7] See www.reach-clp-helpdesk.de/de/Downloads/PAK-Leitfaden/Leitfaden.html?__nnn=true#Leitfaden.de.

[8] See UNEP/WHO, *State of the science on endocrine disrupting chemicals* (Geneva, 2012), p. 2.

disruptors".[31] The European Union has introduced specific legislative obligations aimed at phasing out endocrine disruptors in water, industrial chemicals and pesticides. In REACH, endocrine disrupting chemicals may be considered of similar regulatory concern as substances that are (a) carcinogenic, mutagenic and/or reprotoxic, (b) persistent, bioaccumulative and toxic, or (c) very persistent and very bioaccumulative, and thus are also regarded as "substances of very high concern" (article 57 (f)). While some endocrine disrupting chemicals occur naturally, the chemical varieties are ubiquitous and can found in pesticides, electronics, personal care products and cosmetics. They can also be found as additives or contaminants in food. Endocrine disrupting chemicals are being constantly detected in humans through human biomonitoring.

104. The 2012 study by WHO and UNEP drew attention to health problems as a result of exposure to endocrine disrupting chemicals, including the potential for such chemicals to contribute to the development of non-descended testes in young males, breast cancer in women, prostate cancer in men, developmental effects on the nervous system in children, attention deficit hyperactivity in children and thyroid cancer.[32]

105. A 2012 report[33] points out that current testing and screening methods for endocrine disrupting chemicals, while useful, are inadequate for capturing the full range of adverse effects linked to endocrine disrupting chemicals. Furthermore, testing during critical windows of development is currently not being done with the most sensitive methods now available. Consequently, adequate information about which chemicals can act as endocrine disruptors and when, is severely limited.[34]

106. The Special Rapporteur raised that issue with the Federal Institute for Risk Assessment, as well as the need for increased attention. Germany and other member States of the European Union actively supported the development of criteria for endocrine disrupting chemicals. The development of criteria to reduce exposure to such chemicals is important to protect the rights of children from toxic chemicals, particularly the right of children to the highest attainable standard of health. The Special Rapporteur emphasizes the State's duty to prevent childhood exposure to toxics.[35]

107. However, the European Parliament, in a May 2016 resolution, condemned the European Commission as having breached European Union law and failed to comply with its international obligations to deliver the scientific criteria to identify endocrine disrupting chemicals on time. On 15 June 2016, the Commission published its proposal for scientific criteria for the identification of those chemicals, taking as a starting point the WHO definition in its 2012 study[36] and incorporating key points of a consensus statement that had been agreed by scientific experts at the April 2016 meeting convened by the Federal Institute for Risk Assessment.[37]

108. While the Federal Institute for Risk Assessment believes the Commission's proposal sets a high level of protection regarding endocrine disruptors for human health, including those in vulnerable situations, like children and pregnant women, the proposal has been

[31] See http://ec.europa.eu/environment/chemicals/endocrine/strategy/index_en.htm.

[32] WHO and UNEP, *State of the science of endocrine disrupting chemicals – 2012: An assessment of the state of the science of endocrine disruptors prepared by a group of experts for the United Nations Environment Programme* (Geneva, 2012), available from www.who.int/ceh/publications/endocrine/en.

[33] Dr. A. Kortenkamp et al. "State of the Art Assessment of Endocrine Disruptors" (2012), available from http://ec.europa.eu/environment/chemicals/endocrine/pdf/sota_edc_final_report.pdf.

[34] See https://surbeatitsandenvironment.wordpress.com/2012/02/29/a-major-step-forward-many-still-

[35] See A/HRC/33/41.

[36] See WHO and UNEP, State of the science of endocrine disrupting chemicals (note 32 above).

[37] See https://chemicalwatch.com/46782/breakthrough-hailed-as-edcs-logjam?q=consensus+statement.

criticized by endocrinologists and other scientists, as well as ministries of the environment and members of parliaments from various European Union member States, civil society and industry. Among criticism levelled is that there is an unreasonably high burden of proof to categorize substances as endocrine disrupting chemicals and thus trigger regulatory action, and concern that there has been a departure from both the precautionary principle and the "hazard-based" approach found in applicable European Union laws, which are considered to be good practices.

Glyphosate

109. During the mission, the Special Rapporteur was made aware of a controversy over the potential carcinogenicity of glyphosate, the most widely used herbicide in the world, more commonly known under the original Monsanto trade name "Roundup".

110. The risk assessment carried out by the European Food Safety Authority and the Federal Institute for Risk Assessment (published on 12 November 2015) was in contradiction to the hazard identification by the International Agency for Research against Cancer, which had classified glyphosate as "probably carcinogenic to humans". A risk assessment by a joint WHO/FAO panel reached a similar conclusion to the Federal Institute for Risk Assessment and the European Food Safety Authority. There are important differences between studies, including the type of assessment, consideration of ingredients other than glyphosate that are sold in the formulation and the consideration of different scientific studies in assessments.

111. The differences of opinion on the dangers of glyphosate raise the issue of access to scientific information regarding health and safety of pesticides and how the principle of precaution is applied in practice in the European Union. The Special Rapporteur notes that, under international law, health and safety information about toxic chemicals should never be confidential. Furthermore, in such instances of scientific uncertainty, the European Union principle of precaution must be applied pursuant to the Treaty of Lisbon. The Special Rapporteur will continue to monitor the issue.

C. Imported products

112. In 2006, 48 per cent of detected unsafe products in the European Union originated from China, 21 per cent from the European Union and 27 per cent were of unidentified origin, whereas 25 per cent of all detected unsafe products were children's toys, a very high proportion of which were marketed in the European Union and sourced from China. Recalls of unsafe products such as toys do not provide effective consumer protection because they are often declared late and a means of last resort, whereas the average return rate for toy recalls is very low, meaning that the vast majority will remain with consumers.

113. In August and September 2007, a series of large-scale voluntary recalls in the European Union relating to unsafe toys that were harmful to health raised the public alarm that, in spite of product harmonization and a Union-wide market surveillance system, unsafe products were still produced, imported and marketed within the region. The discovery of lead paint in toys manufactured in China led to the introduction of broad new toxicity regulations for a wide range of children's products.

See European Parliament motion for a resolution on dangerous toys, available from www.europarl.europa.eu/sides/getDoc.do?type=MOTION&reference=B6-2007/0355&language=RO.

V. International cooperation and impacts abroad

114. One of Special Rapporteur's greatest concerns is the indisputably wide gap that remains between the measures introduced in Germany to reduce risks and protect human rights from hazardous substances, and the measures introduced outside Germany, particularly in developing countries where German businesses have substantial relationships.

115. In the next several years, the production and use of chemicals is expected to accelerate sharply and rapidly in developing countries and economies in transition. This will present great challenges to Governments and business enterprises in terms of their responsibilities to respect human rights through their business relationships.

A. Global treaties for chemicals and wastes

116. Throughout the mission, the Special Rapporteur raised his particular concern about human rights impacts abroad. For all stages of the life cycle of hazardous substances — extraction, production, use, emission and disposal — strong global standards are necessary to prevent double standards from emerging outside the European Union and to ensure that German businesses respect human rights at home and abroad. However, much work remains in developing strong global standards.

117. Today, just over two dozen hazardous substances are regulated under international treaties for "chemicals and wastes" throughout their life cycle. It was estimated by the European Union that in 2001 there were over 1,000 substances of very high concern, not including hundreds of hazardous pesticides and various other potential pollutants.

118. Chemicals linked to cancer, hormone disruption, neurodevelopmental disabilities and other adverse health impacts often do not fall within narrow the scope of existing, legally binding international treaties for chemicals and wastes. Many of the substances are unquestionably hazardous, such as asbestos, lead, cadmium and certain phthalates and other endocrine disruptors. This can and arguably is leading to wide disparities between the toxic chemicals used in developing countries and those used in the industrialized world, including products containing dangerous chemicals that are for consumers in Germany. To help fill a massive global regulatory gap for toxic chemicals, a non-binding policy framework, the Strategic Approach to International Chemicals Management, was adopted in 2006 with a mandate to achieve the sound management of chemicals by 2020. The mandate of the Strategic Approach to International Chemicals Management is the broadest and yet receives the least funding of the chemicals and wastes cluster.

B. Exportation of highly hazardous pesticides

119. The FAO/WHO Code of Conduct on Pesticide Management applies to Governments and pesticide business enterprises to manage the risks associated with pesticide use wherever they are sold. The industry should rely on the Code, particularly when operating in countries that have not yet established or are unable to effectively operate regulatory control over commercial pesticide activity, which applies to many developing countries where the most adverse environmental and public health impacts of pesticide use are felt.

120. If relevant standards cannot be met and pesticide use presents an unacceptable risk to the public, the Code requires pesticide companies to halt the sale of those products.[39] According to the Pesticide Action Network, developing countries use only 25 per cent of global pesticides, yet 99 per cent of acute pesticide-related fatalities occur there.[40]

121. The Special Rapporteur remains deeply concerned by the double standards that currently exist. Although many highly hazardous pesticides are banned or restricted in the European Union because their safe use cannot be guaranteed, European businesses continue to produce them, sometimes specifically for export and use in non-European Union countries without adequate legislation or enforcement of existing laws, creating unmanageable risks and a high likelihood of grave impacts to human rights.

122. There has been repeated evidence of chemical manufacturing companies taking risk mitigation attempts that have been unsuccessful in protecting the lives and health of workers and communities who are at particular risk.

123. When the Special Rapporteur met with Bayer, he also raised the long-standing court case of the Taucamarca community in Peru, in which Bayer was implicated. The 1999 case concerned an incident whereby 24 schoolchildren died and 26 others were severely injured after mistaking white, odourless powder found in a bag as being powdered milk, when in fact it was a deadly pesticide (parathion) that was banned in the European Union at the time of the incident.

124. The European Center for Constitutional and Human Rights brought to the Special Rapporteur's attention a report[41] in which it claimed Bayer CropScience AG and Syngenta AG, a Swiss company, were in breach of the FAO/WHO Code. Bayer has pledged to adhere to the Code through its membership of CropLife International. Yet surveys carried out in September 2014 and March 2015 in Punjab, India, suggest that Bayer and Syngenta are manufacturing, distributing and selling pesticide products in violation of the Code. The two companies were selected because of the dominant position they hold in the Indian and world markets.

125. The report of the European Center for Constitutional and Human Rights focused on four pesticides produced by Bayer and two by Syngenta that were classified as moderately or highly hazardous. The results of the survey alleged that Bayer and Syngenta breached the FAO/WHO Code because the labels lacked essential information, and because company representatives and users were inadequately trained and lacked access to protective personal equipment.

126. Bayer stated that it complied with the FAO/WHO Code and provided training materials to all farmers, including in developing countries. With regard to concerns about the continued sale of highly hazardous pesticides in the developing world, Bayer argued this was due to uncontrollable misuse.

127. The Special Rapporteur also heard the argument that businesses had a responsibility to continue to produce certain pesticides so that farmers could feed their families and the world, yet found such arguments very difficult to reconcile against the disproportionate number preventable deaths and injuries that continue to occur in developing countries and the need to address the distribution of food imbalance throughout the world.

[39] See report of the European Center for Constitutional and Human Rights, available from www.ecchr.eu/en/our_work/business-and-human-rights/pesticides/q-a-pesticides-monitoring-reports-to-fao.html.

[40] See www.panna.org/pesticides-big-picture/pesticides-101.

[41] See report of the European Center for Constitutional and Human Rights (note 38 above).

C. Worker standards

128. The Special Rapporteur is particularly concerned that European Union business enterprises, beyond Germany businesses, are exporting their manufacturing activities and the risks to workers of toxic chemicals — to developing countries. Post-production, European Union businesses can import a product that claims to be "free of hazardous substances" even though hazardous substances were used in the supply chain outside the European Union.

129. This practice is comparable to the supply chain of clothing that originates, for example, from a garment factory in Bangladesh that fails to respect workers' rights, including against sexual violence, and unlawfully targets labour leaders with intimidation, threats and violence.[32] It is also similar to the global trade and supply chain in cobalt, a key component in rechargeable lithium-ion batteries, which may originate from artisanal miners in the Democratic Republic of the Congo, including child labourers who suffer health consequences from prolonged exposure to cobalt without even the most basic protective equipment.[33]

130. These two examples also highlight one of the major problems of REACH where business enterprises are seriously challenged in tracing the use of industrial chemicals throughout the supply chain, despite the reporting requirements of the Regulation.

VI. Conclusions and recommendations

131. **The Special Rapporteur acknowledges the prominent role that the Germany and its chemical industry plays in the implementation of REACH and other European Union chemicals legislation, and in discussions on future policy directions on international cooperation. However, even if German businesses phased out or stopped manufacturing and selling highly hazardous pesticides abroad, another business enterprise from another country could just as likely take over that market, so a global approach is required to protecting human rights.**

132. **The Special Rapporteur makes the following recommendations to the Government with regard to strengthening the international legal framework for hazardous substances and chemicals management:**

(a) **Strengthen global standards for protection against the adverse effects of toxic chemicals;**

(b) **Prioritize the transition from highly hazardous pesticides to safer alternatives as a matter of urgency;**

(c) **Strengthen the Strategic Approach to International Chemicals Management for the period beyond 2020 to better address gaps in chemicals and waste treaties;**

(d) **Identify priorities for additional legally binding obligations on chemicals and wastes at the global level for chemicals that cannot be managed in an**

[32] See Human Rights Watch, report entitled *"Whoever raises their head suffers the most" – Workers' Rights in Bangladesh's Garment Factories* (2015), available from www.hrw.org/report/2015/04/22/whoever-raises-their-head-suffers-most/workers-rights-bangladeshs-garment.

[33] See Amnesty International, *"This is what we die for" – Human rights abuses in the Democratic Republic of the Congo power the global trade in cobalt* (May 2015), available from www.amnesty.org/en/documents/afr62/3183/2016/en/.

environmentally sound manner, with a view to meeting various relevant targets under the Sustainable Development Goals.

133. The Special Rapporteur also makes the following recommendations to the Government:

(a) Strengthen the involvement of civil society organizations and public participation in chemical policymaking;

(b) Enhance national surveillance of chemicals in products and strengthen information exchange;

(c) Improve the enforcement of chemical regulations by better control;

(d) Control waste streams to be exported;

(e) Support environmental labelling and information for consumers;

(f) Increase information for marginalized persons and those in vulnerable situations, especially pregnant women and those who work or live with children, about protection measures, especially endocrine disrupting chemicals;

(g) Implement risk reduction measures, especially for those in vulnerable situations.

134. The Special Rapporteur makes the following recommendations to the German chemical business enterprises with regard to strengthening the international legal framework for chemicals management:

(a) Engage in capacity-building with developing countries, with a view to eliminating the manufacture-use-release of hazardous substances, including an orderly phase-out of highly hazardous pesticides globally, and transitioning to safer alternatives;

(b) Work with industry partners to develop global mechanisms to finance the cost of chemicals management at the national and/or regional levels for developing countries.

135. The Special Rapporteur makes the following recommendations to the Government with regard to preventing human rights violations at home and abuse abroad by German business enterprises:

(a) Raise awareness and build capacity on the respective obligations and responsibilities of the Government and all business enterprises to prevent and address adverse business-related human rights impacts in relation to hazardous substances and waste, in line with the Guiding Principles on Business and Human Rights;

(b) Set out clear expectations in the National Action Plan on Business and Human Rights and legally require all business enterprises in Germany to respect human rights throughout their operations and conduct human rights due diligence in relation to their domestic and international operations and supply chains, including the elimination of double standards;

(c) Provide international cooperation and financial assistance to developing countries that are host States to German companies to prevent human rights abuses, especially those where such abuses have been documented;

(d) Strengthen mechanisms for public participation and dialogue between Government, business, trade associations and civil society on business and human rights issues.

136. The Special Rapporteur makes the following recommendations to German chemical business enterprises with regard to embedding the Guiding Principles on Business and Human Rights:

(a) Comply with their responsibility to respect international human rights by adopting a human rights policy and carrying out human rights due diligence to identify, prevent and mitigate adverse human rights impacts due to, inter alia, hazardous substances and wastes, and account for how they address such impacts;

(b) In assessing actual or potential adverse human rights impacts due to hazardous substances and wastes, ensure meaningful consultation with affected individuals and communities, paying attention to marginalized persons or those in vulnerable situations and ensuring that they have timely and complete information about proposed projects, products or changes that may affect them and the capacity to put forward their opinions;

(c) Pay particular attention to how human rights risks from hazardous substances and wastes affect women, children, the elderly and men differently;

(d) Establish and operationalize grievance mechanisms in line with Principle 31 of the Guiding Principles, in order to identify and address adverse impacts;

(e) Engage in the development and implementation of the National Action Plan on Business and Human Rights.

137. The Special Rapporteur makes the following recommendations to the German Chemical Industry Association with regard to business and human rights:

(a) Bring to the attention of the Board any allegations of any chemical company being involved in human rights abuses and take appropriate measures;

(b) Ensure all member companies embed and implement the Guiding Principles on Business and Human Rights.

138. The Special Rapporteur recommends that civil society:

(a) Continue to raise awareness about the respective obligations and responsibilities of the Government and business enterprises under international human rights law to prevent and address human rights impacts related to hazardous substances and wastes due to the operations of business enterprises;

(b) Consider holding business human rights awareness-raising events for government agencies that focus on hazardous substances and waste issues;

(c) Continue to champion the rights of the most vulnerable at home and abroad and human rights defenders;

(d) Engage in the implementation of the National Action Plan on Business and Human Rights.